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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A database system for organizing data elements according to a Hilbert curve, said data elements being representable by a plurality of coordinates, said database system comprising:

    first means for generating a plurality of bitblocks by bitwise interleaving the coordinates of the data elements;
    second means for applying a fliprot transformation to a first bitblock;
    said fliprot transformation comprising a flip transformation and a ~~rot~~ rotation transformation, said flip transformation inverting bits of said first bitblock, said ~~rot~~ rotation transformation interchanging bits of said first bitblock;
    third means for obtaining, for each further bitblock, a fliprot transformation by a concatenation of two or more fliprot transformations; ~~and~~
    fourth means for applying fliprot transformations to their corresponding bitblock; and
    fifth means for accessing said data elements;
    whereby the bitblock bits determine the organization of said data elements according to said Hilbert curve.

2. (currently amended) A method of organizing data elements of a database according to a Hilbert curve, said data elements being representable by a plurality of coordinates, said method comprising the following steps:

    generating a plurality of bitblocks by bitwise interleaving the coordinates of the data elements;
    ~~whereby~~ applying a predetermined fliprot transformation ~~is applied~~ to a first bitblock;
    said fliprot transformation comprising a flip transformation and a ~~rot~~ rotation transformation, said flip transformation inverting bits of said first bitblock, said ~~rot~~ rotation transformation interchanging bits of said first bitblock;

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for each further bitblock, obtaining a fliprot transformation is obtained by a concatenation of
two or more fliprot transformations;
and applying fliprot transformations are applied to their corresponding bitblock; and
accessing said data elements;
whereby the bitblock bits determine the organization of said data elements according to said
Hilbert curve.

3.   (currently amended) The method according to claim 2, wherein said rot rotation
transformation of said first bitblock and said rotation transformation of each said further
bitblock cyclically shifts the bits of said respective bitblock.

4.   (original) The method of claim 2, wherein organizing is a means for at least one of searching,
sorting, storing, retrieving, inserting, deleting, querying, range querying, data elements in said
database system.

5.   (original) The method of claim 2 for range querying data elements in said database, with a
BIGMIN calculation including a candidate calculation wherein said candidate is kept in form of
rectangle data.

6.   (original) A computer-readable data storage medium for storing program code for executing,
when being loaded into a computer, the method according to claim 2.